

Service Manual

Tuner

ST-X999L

Color

(K)...Black Type



Area

Country Code	Area	Color
(E)	Continental Europe	(K)
(EB)	Great Britain	(K)
(G)	Third Region	(K)

SPECIFICATIONS

(DIN 45 500)

■ FM TUNER SECTION

Frequency range	87.50~108.00 MHz (0.05 MHz-steps)
Sensitivity	1.5 μ V (IHF, usable)
S/N 30 dB	1.3 μ V (75 Ω)
S/N 26 dB	1.2 μ V (75 Ω)
S/N 20 dB	0.9 μ V (75 Ω)
IHF 46 dB stereo quieting sensitivity	28 μ V / 75 Ω
Total harmonic distortion	
MONO	0.15%
STEREO	0.3%
S/N	
MONO	70 dB (78 dB, IHF)
STEREO	65 dB (71 dB, IHF)
Frequency response	20 Hz ~ 15 kHz, +0.5 dB ~ -1.5 dB
Alternate channel selectivity	
± 400 kHz	65 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	46 dB
IF rejection at 98 MHz	70 dB
Spurious response rejection at 98 MHz	70 dB
AM suppression	55 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	-30 dB (-35 dB, IHF)
38 kHz	-45 dB (-50 dB, IHF)
Channel balance (250 Hz ~ 6,300 Hz)	± 1.5 dB
Limiting point	1.2 μ V
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW	522 kHz ~ 1611 kHz (9 kHz-steps)
	530 kHz ~ 1620 kHz (10 kHz-steps)
LW	155 kHz ~ 353 kHz (9 kHz-steps)
	153 kHz ~ 351 kHz (-2 kHz shift)

Sensitivity (S/N 20 dB)

MW	20 μ V, 300 μ V/m
LW	50 μ V
Selectivity (± 9 kHz)	
MW (at 999 kHz)	55 dB
LW (at 254 kHz)	55 dB
Image rejection	
MW (at 999 kHz)	40 dB
LW (at 254 kHz)	40 dB
IF rejection	
MW (at 999 kHz)	60 dB
LW (at 254 kHz)	60 dB

■ TIMER SECTION

Clock	Quartz-lock type
	24-hour indication
Precision	Within 0 sec. $\sim \pm 10$ sec.
Functions	24-hours programmable
	weekly (1 setting)
	once only (1 setting)
	sleep (at 10~60 min. 10-min. intervals)
Programmable content	Program source (FM, MW, LW)
	Power ON/OFF setting
	Designation of preset station
Setting intervals	1 minute ~ 23 hours, 59 minutes
	(at 1-min. intervals)
	sleep, once, weekly

Priority order

■ GENERAL

Output voltage	0.3V (0.6V, IHF)
Power consumption	9W (clock 5W)
Power supply	
For Great Britain	AC 50 Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For others	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W x H x D)	360 x 64.5 x 288 mm
	(14-3/16" x 2-17/32" x 11-11/32")
Weight	2.1 kg (4.6 lb.)

Notes:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

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ST-X999L

CONTENTS

	Page
ACCESSORIES	2
CONNECTIONS	2
LOCATION OF CONTROLS	3
DISASSEMBLY INSTRUCTIONS	4, 5
MEASUREMENTS AND ADJUSTMENTS	6, 7
BLOCK DIAGRAM	8, 9
SCHEMATIC DIAGRAM	10~13
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	14

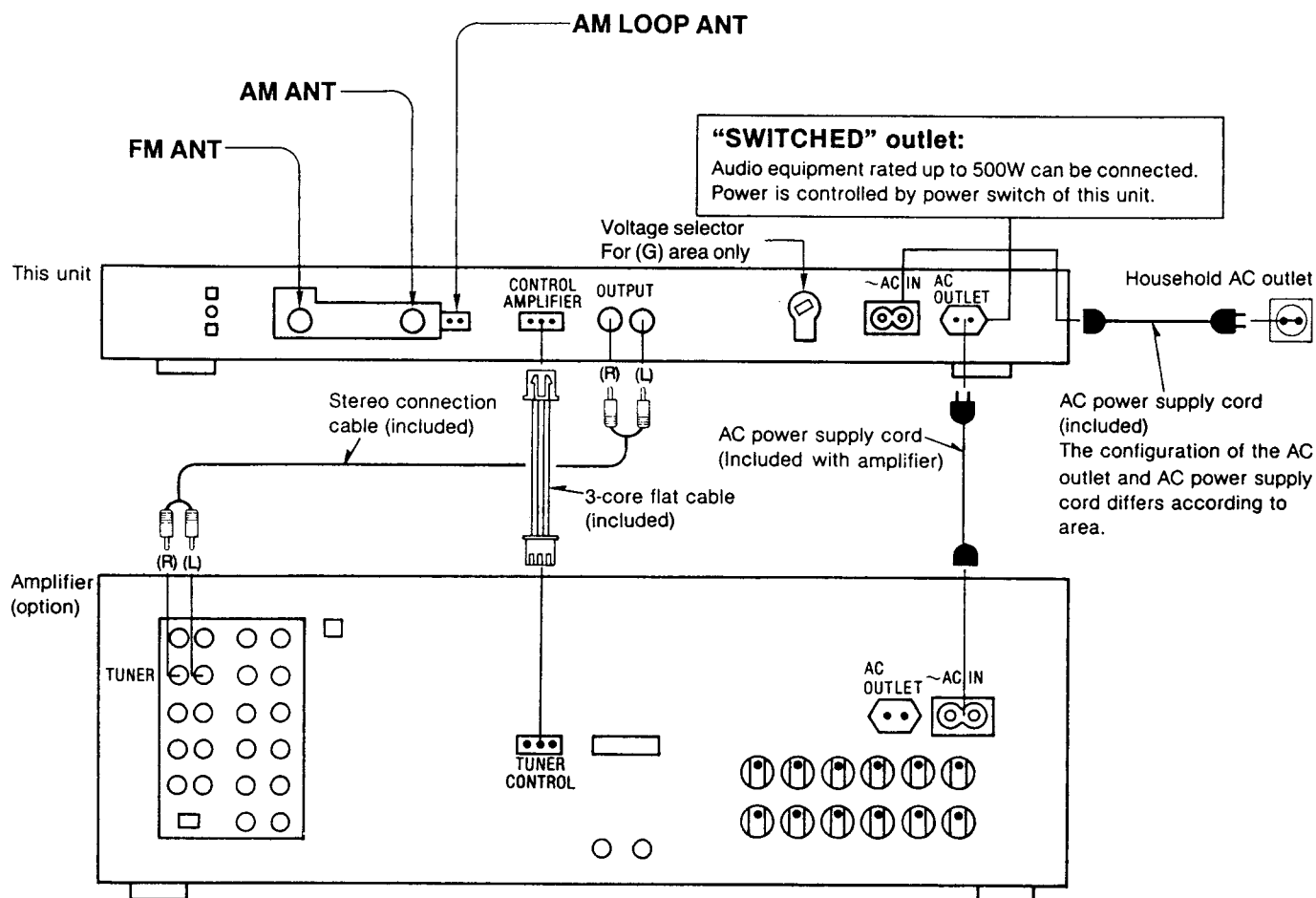
	Page
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM	14~16
FUNCTIONS OF IC TERMINALS	17
DESCRIPTION OF FL PANEL	18
RESISTORS AND CAPACITORS	19, 20
REPLACEMENT PARTS LIST	20~22, 24
EXPLODED VIEW	23, 24

ACCESSORIES

- Stereo connection cable (SJP2269) 1
- FM indoor antenna 1
 - For [G] area only (SSA269M)
 - For others areas (SSA270M)
- AM loop antenna (SPB1162T) 1
- AM antenna holders (SMA233-1M) 1
 - (SMA231M) 1
- Screws (XTB3+10AFZ) 2

- 3-core flat cable (SWKTX930E) 1
- Attachment plug (SJP9009 for [EB] area only) 1
- AC plug adaptor (RJP120ZBS-H for [G] area only) 1
- AC power supply cord 1
 - For [EB] area only (SJA193)
 - For [EG] area only (RJA0004)
 - For others areas (SFDAC05E03)
- Remote-control transmitter (EUR64754) 1
- Batteries (R03) 2

CONNECTIONS



DEUTSCH

Tuner

ST-X999L

■ MESSUNGEN UND JUSTIERUNGEN

UKW JUSTIERUNGEN

Einstellungen der Bedienelemente und zu verwendende Geräte.

- UKW-Messender(UKW-MS)
- Stereo-Modulator
- Verzerrungs-Analysator
- Elektronische Gleichstrom-Voltmeter(EVM)
- Frequenzzähler
- Drosselspule(100µH)
- Widerstand(100kΩ)

Anmerkung: Für Z202,Z251,L321 und L322 werden bereits justierte Ersatzteile geliefert. Die Kerne dieser Teile daher nicht drehen.

UKW-MONO-VERZERRUNGS-JUSTIERUNG

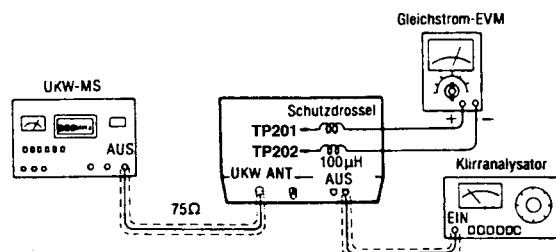
1. Der Testaufbau ist in der Abbildung gezeigt.
2. Stellen Sie die Einheit auf "FM(UKW)" Betrieb.
3. Die Radiofrequenzanzeige und den Messender auf 100.10MHz einstellen.
4. Den Kern von T201 so justieren, daß die im Signalzustand gemessene Spannung 0mV ($0 \pm 20\text{mV}$) im 300mV-Bereich beträgt.
5. T202 so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
6. Schritte 4 und 5 einige Male wiederholen.
7. Versichern Sie sich, daß die Verzerrungsfaktoren von Kanal L und Kanal R annähernd gleich sind und auf ein Minimum gehalten sind.

Anmerkung:

Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

ZUSTAND DES UKW-MESSENDERS

Modulation 100%
 Modulationsfrequenz 1kHz
 Ausgangspegel 66dB



MPX-SGO-JUSTIERUNG

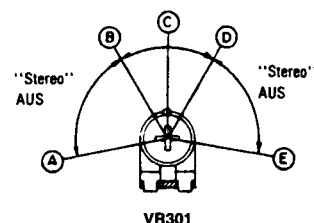
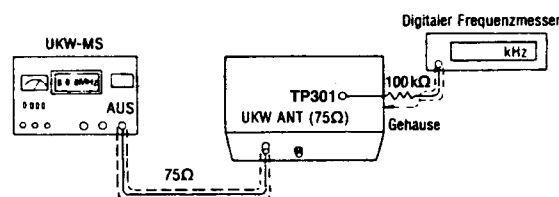
1. Der Testaufbau ist in der Abbildung gezeigt.
2. Den UKW-Betriebsart-Wahlshalter in die "on/auto" Position stellen.
3. Radio und Meßsender auf 100.10MHz einstellen.
4. VR301 auf 19kHz $\pm$ 30Hz auf der Frequenzzähleranzeige justieren.

● VERWENDUNG EINES ALTERNATIVSYSTEMS

1. Stereosignal vom Meßsender eingeben oder eine Stereo-Sendung empfangen.
2. VR301 justieren, bis die Stereo-Anzeige aufleuchtet. Den Arm von VR301 mit Lack sichern, wie in der Abbildung gezeigt.

ZUSTAND DES UKW-MESSENDERS

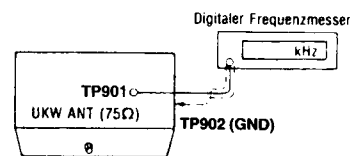
Modulation 100%
 Modulationsfrequenz 0kHz
 Ausgangspegel.....66dB



- A-B, D-E..... "Stereo" AUS Stellung
- B-D..... "Stereo" EIN Stellung (Anzeigebeleuchtung)
- C..... Einstellpunkt des pilotschaltkreis'

ELNSTELLUNG DER PHASESPERRUNG EINES SCHLEIFENVERSCHIUSSES

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Den UKW-Betriebsart-Wahlhalter in die "AM" Position stellen.
3. Vornehmen Sie ein Kurzschluß zwischen TP903 und TP904.
4. Stellen Sie den Radiofrequenzbildschirm auf "1629kHz".
5. CT901 auf $524.288\text{kHz} \pm 10\text{Hz}$ auf der Frequenzzähleranzeige justieren.



FRANÇAIS

■ MEASUREMENTS ET REGLAGES

M.F. REGLAGES

Positionnements des commandes et équipement utilisé

- Générateur de signaux M.F. (FG-SG)
- Modulateur stéréophonique
- Analyseur de distorsion
- Voltmètre électronique à C.C. (EVM).
- Compteur de fréquence
- Bobine d'amortissement d'arrêt (100μH)
- Résistance (100KΩ)

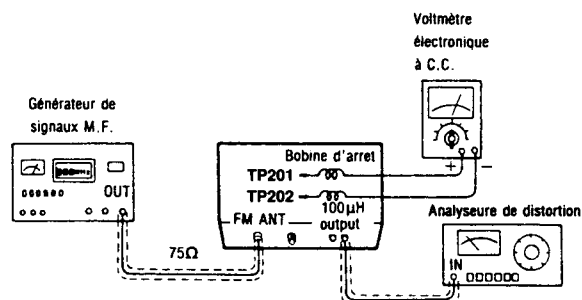
Nota: Pour Z202, Z251, L321 et L322, ajuster les éléments qui sont fournis. Aussi, ne pas tourner les noyaux de ces éléments.

REGLAGE DE DISTORSION MONOPHONIQUE M.F.

1. Le raccordement de l'équipement d'essai est montré sur l'illustration.
2. Régler l'appareil sur le mode "FM".
3. Ajuster le réglage de l'affichage de radiofréquence et du générateur de signaux sur 100.10MHz.
4. Régler le noyau de T201 de telle sorte que la tension mesurée sur le mode de signaux soit de 0mV (0mV $\pm$ 20mV) dans une plage de 300mV.
5. Ajuster T202 de telle que le facteur de distorsion du canal de gauche soit minimisé.
6. Répéter les étapes 4 et 5 quelques fois.
7. S'assurer que les facteurs de distorsion du canal de gauche et du canal de droite soient sensiblement les mêmes et au minimum.

Nota: Le tournevis de réglage utilisé devra être fait en résines.

CONDITION DU GENERATEUR DE SIGNAUX M.F.
 Modulation 100%
 Fréquence de modulation 1kHz
 Niveau de sortie 66dB



REGLAGE MULTIPLEX DE L'OSCILLATEUR COMMANDE PAR VARIATION DE TENSION

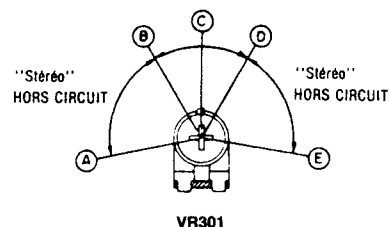
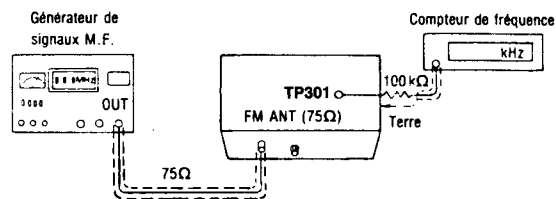
1. Le raccordement de l'équipement d'essai est montré sur la figure.
2. Régler l'appareil sur la position "on/auto".
3. Régler le cadran radio et le générateur de signaux sur **100.10MHz**.
4. Ajuster **VR301** pour **19kHz $\pm$ 30Hz** sur le compteur de lecture de fréquences.

● EN UTILISANT UN SYSTEME ALTERNATIF

1. Applique un signal stéréo à partir du générateur ou recevoir une émission stéréo.
2. Ajuster **VR301** jusqu'à ce que l'indicateur stéréo s'éclaire. Coller le bras de **VR301** comme il est montré sur la figure.

CONDITION DU GENERATEUR DE SIGNAUX M.F.

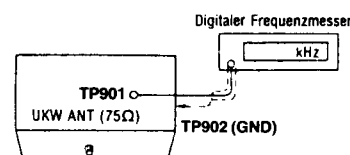
Modulation 100%
Fréquence de modulation 0kHz
Niveau de sortie 66dB



- (A) — (B),
(D) — (E) Position de HORS CIRCUIT "Stereo".
(B) — (D) Position de MISE EN CIRCUIT "Stereo".
(Eclairage de l'Indicateur)
(C) Point de réglage du circuit pilote.

REGLAGE DE L'HORLOGE EN BOUCLE À BLOCAGE DE PHASE

1. Le raccordement de l'équipement d'essai est montré sur la figure.
2. Régler l'appareil sur la position "AM".
3. Faire de court-circuit entre **TP903** et **TP904**.
4. Régler l'affichage de radiofréquence sur "**1629kHz**".
5. Ajuster **CT901** pour **524.288kHz $\pm$ 10Hz** sur le compteur de lecture de fréquences.



ESPAÑOL

■ MEDICIONES Y AJUSTES

FM AJUSTES

Posiciones de control y equipo usado

- Generador de señales de FM (FM-SG)
- Modulador estéreo
- Analizador de distorsiones
- Voltímetro electrónico de CC (EVM)
- Frecuencímetro
- Bobina de choque (100μH)
- Resistor (100kΩ)

Nota: Para Z202, Z251, L321 y L322, se suministran piezas ajustadas. Por lo tanto, no cambie los núcleos de estas piezas.

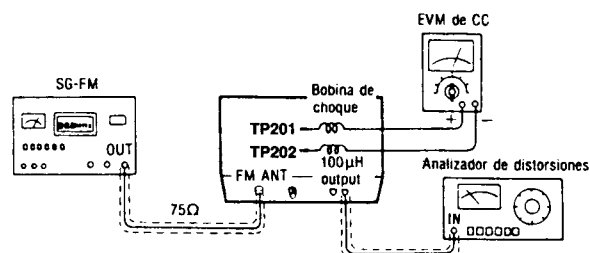
AJUSTE DE DISTORSION MONO FM

1. La conexión del equipo de pruebas se muestra en la figura.
2. Poner la unidad en modalidad de "FM".
3. Poner la puesta de la presentación de radiofrecuencia y generador de señales a **100.10MHz**.
4. Ajustar el núcleo de **T201** de manera que el voltaje medido en modalidad de señal sea **0mV (0±20mV)**.
5. Ajustar **T202** de manera que el factor de distorsión de CH-I se minimice.
6. Repetir los pasos 4 y 5 algunas veces.
7. Asegurarse de que los factores de distorsión de CH-I y CH-D sean casi los mismos y los mínimos.

Nota:

El destornillador de ajuste usado debe estar hecho de resina.

CONDICION DE GENERADOR DE SEÑALES DE FM
 Modulación 100%
 Frecuencia de modulación 1kHz
 Nivel de salida 66dB

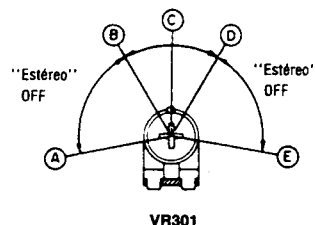
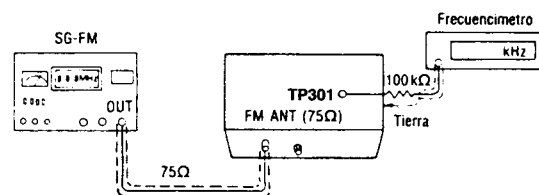


AJUSTE DE MPX VCO(OSCILADOR CONTROLADO POR VOLTAJE MPX)

1. La conexión del equipo de pruebas se muestra en la figura.
2. Poner la unidad en la posición de "on/auto".
3. Poner la presentación de la radio y la puesta del generador de señales en **100.10MHz**.
4. Ajustar **VR301** para **19kHz±30Hz** en lectura de frecuencímetro.

* USANDO SISTEMA ALTERNATIVO

1. Aplicar señal estereofónica del generador o recibir la emisión estereofónica.
2. Ajustar **VR301** hasta que la presentación de estéreo se encienda. Fijar el brazo de **VR301** como se muestra en la figura.



VR301

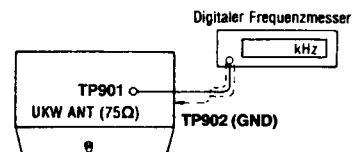
- ①-②, ④-⑤..... Pósição de "estéreo" OFF.
- ②-④..... Pósição de "estéreo" ON. (indicador encendido)
- ③..... Punto de ajuste de circuito piloto.

CONDICION DE GENERADOR DE SEÑALES DE FM

Modulación 100%
 Frecuencia de modulación 0kHz
 Nivel de salida 66dB

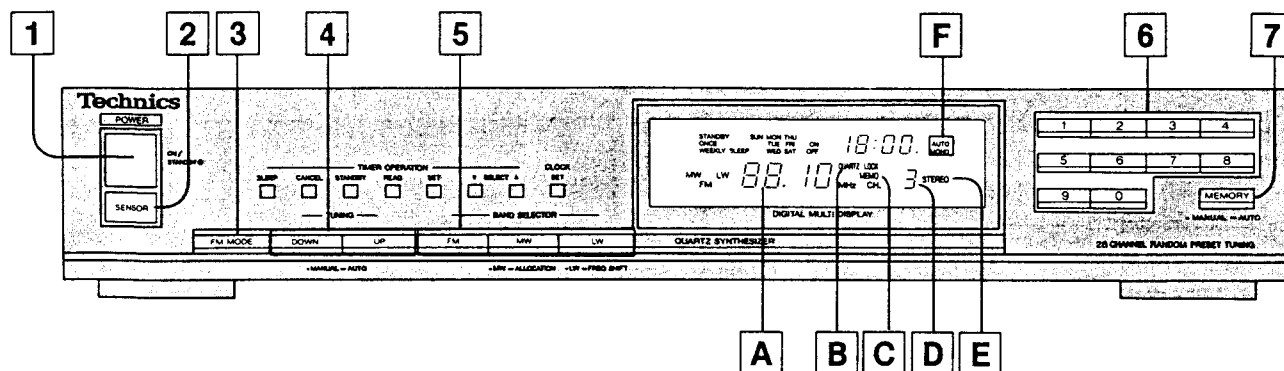
AJUSTE DEL RELOJ DEL ENLACE DE LA FASE DE CIERRE(PHASE-LOCKED LOOP)

1. La conexión del equipo de pruebas se muestra en la figura.
2. Poner la unidad en la posición de "AM".
3. Hacer cortocircuito del **TP903** y **TP904**.
4. Ajuste la frecuencia de radio a **1629kHz** en la pantalla.
5. Ajustar **CT901** para **524.288kHz±10Hz** en lectura de frecuencímetro.



LOCATION OF CONTROLS

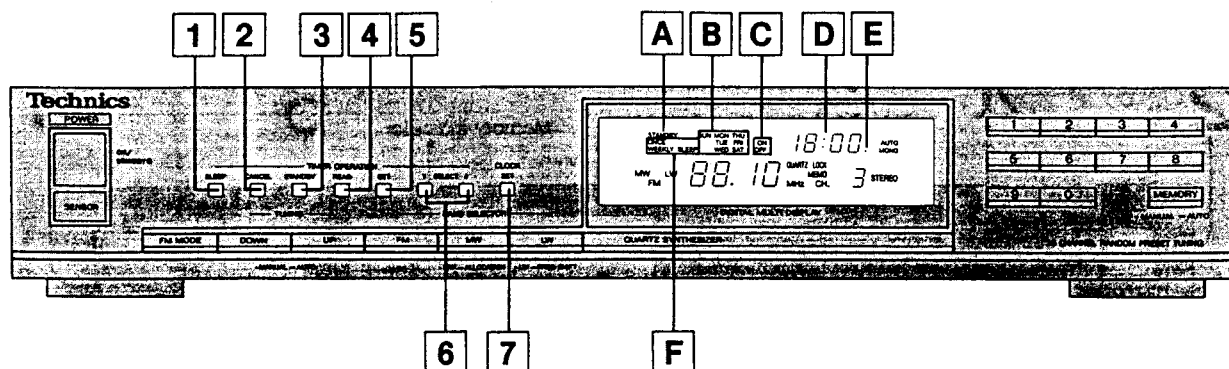
Tuner section



- 1 Power "STANDBY $\square$ /ON" switch (POWER "ON/STANDBY $\square$ ")
- 2 Remote-control signal receptor (SENSOR)
- 3 FM mode selector (FM MODE)
- 4 Tuning buttons (TUNING)
- 5 Band selectors (BAND SELECTOR)
- 6 Preset-tuning buttons (1-0)
(28 CHANNEL RANDOM PRESET TUNING)
- 7 Memory button (MEMORY)

- A Digital frequency display
- B Quartz-lock indicator (QUARTZ LOCK)
- C Memory indicator (MEMO)
- D Channel display
- E FM stereo indicator (STEREO)
- F FM mode indicators

Timer section

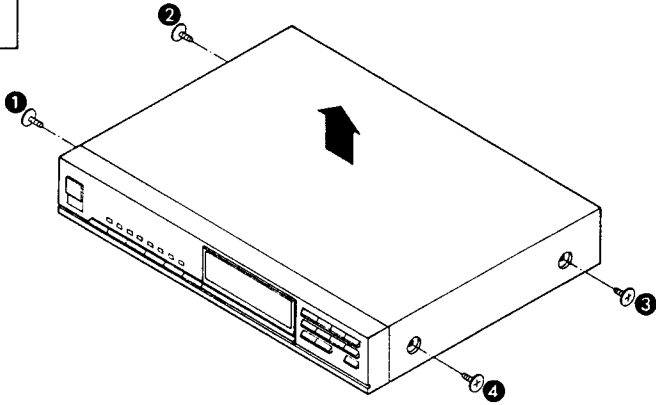
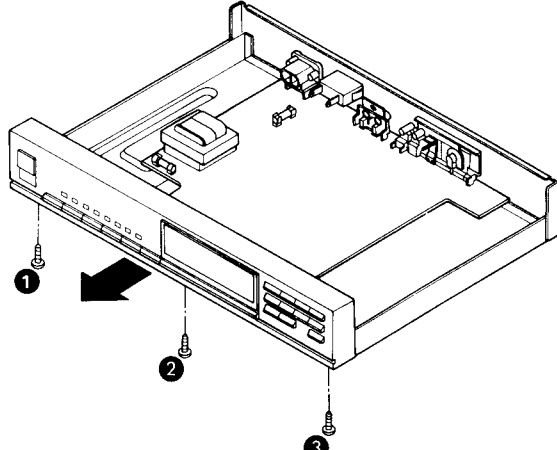
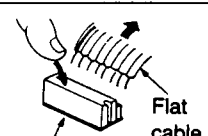
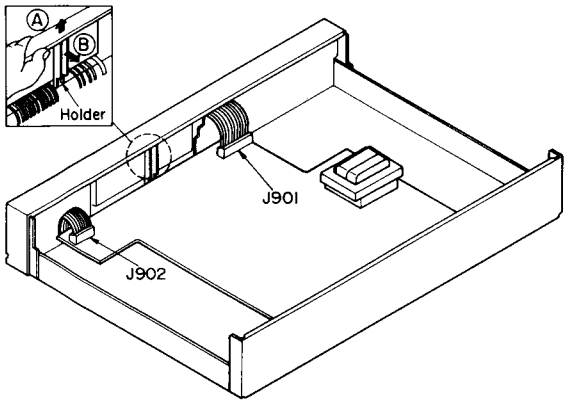
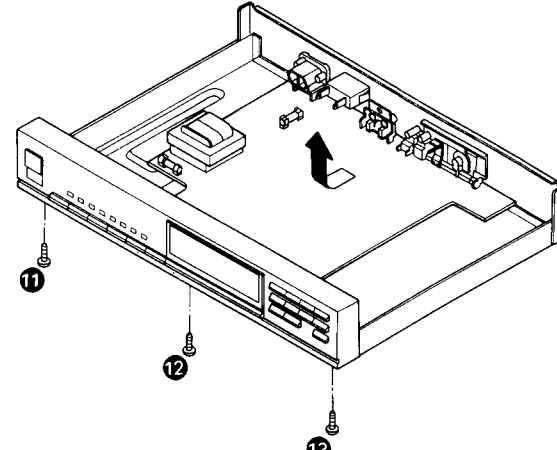
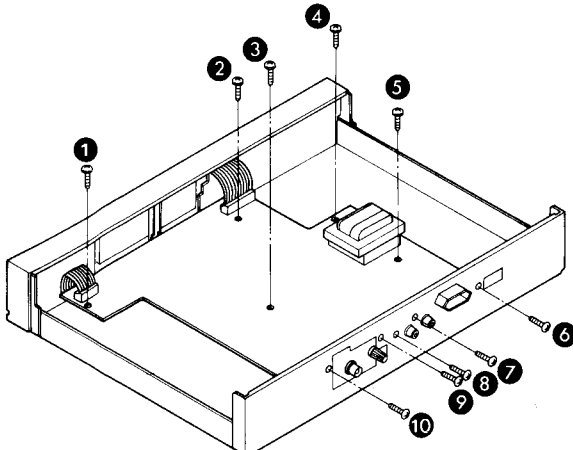


- 1 Sleep button (SLEEP)
- 2 Cancel button (CANCEL)
- 3 Stand-by button (STANDBY)
- 4 Read button (READ)
- 5 Set button (SET)
- 6 Select buttons (SELECT)
- 7 Clock set button (CLOCK SET)

- A Stand-by indicator (STANDBY)
- B Day display
- C Timer ON/OFF indicator (ON/OFF)
- D Time display
- E Colon Indicator
- F Timer-mode indicator (ONCE/WEEKLY/SLEEP)

※The operating procedures and features are similar to those for and of the ST-X990L.

DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the cabinet	
Procedure 1	• Remove the 4 screws (1~4).	
Ref. No. 2	Removal of the front panel	3. Remove the 3 screws (1~3). 4. Remove the front panel in the direction of the arrow.  Removal of the flat cable Pull out the flat cable while pressing the connector 
Procedure 1→2	1. Remove the flat cable (J901, J902). 2. Push the front panel in the direction of the arrow (A) and remove the holder in the direction of the arrow (B).	
		
Ref. No. 3	Removal of the main P.C.B.	2. Remove the 3 screws (11~13). 3. Slightly pull the front panel toward you and remove the main P.C.B. 
Procedure 1→3	1. Remove the 10 screws (1~10).	
		

Ref. No. 4	Removal of the preset tuning SW P.C.B. and band/tuning/timer operation SW P.C.B.	
Procedure 1→2→4	- Remove the 4 screws (❶~❹). - Remove the band/tuning/timer operation SW P.C.B. - Remove the 1 screw (❺). - Push the 4 claws and remove the preset tuning SW P.C.B.	
Ref. No. 5	Removal of the remote control	
Procedure 5	- Remove the battery cover lid. - Remove the one screw (❶).	Insert a screwdriver blade between the upper and lower covers inside the battery compartment and them slowly loosen the bottom cover.

MEASUREMENTS AND ADJUSTMENTS

FM ADJUSTMENT

Control positions and equipment used

- FM signal generator(FM-SG)
- Stereo modulator
- Distortion analyser
- DC electronic voltmeter(EVM)
- Frequency counter
- Choke coil(100 μ H)
- Resistor(100k Ω)

Note: For Z202(AM-IFT), Z251(AM ANT and OSC coil), L321 (L.P.F) and L 322(L.P.F), they are supplied as adjusted parts. So, do not turn the cores of the parts.

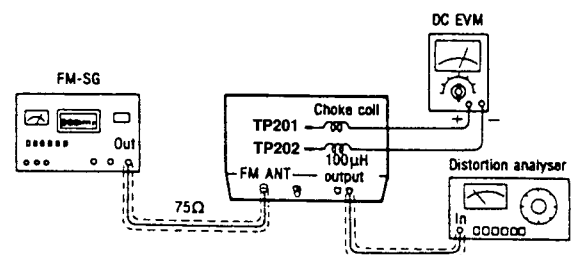
FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" mode.
3. Set the radio frequency display and signal generator to 100.10MHz.
4. Adjust the core of T201 so that the voltage measured in signal mode is 0mV(0 $\pm$ 20mV) in 300mV range.
5. Adjust T202 so that the distortion factor of L-CH is minimized.
6. Repeat steps 4 and 5.
7. Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

Note: The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION

Modulation 100%
Modulation frequency 1kHz
Output level 66dB



MPX VCO ADJUSTMENT

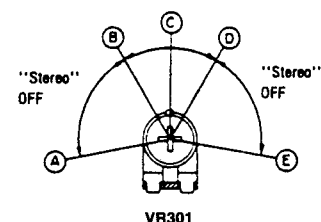
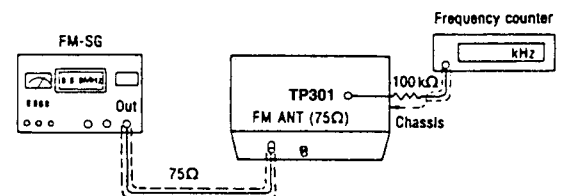
1. Test equipment connection is shown in figure.
2. Set the unit to "on/auto" position.
3. Set the radio frequency display and signal generator to 100.10MHz.
4. Adjust VR301 for 19kHz $\pm$ 30Hz on frequency counter reading.

USING ALTERNATE SYSTEM

1. Receive the stereo broadcast.
2. Adjust VR301 until stereo indicator lights up. Fix the arm of VR301 as shown in figure.

FM SIGNAL GENERATOR CONDITION

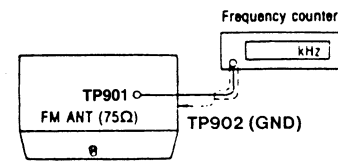
Modulation 100%
Modulation frequency 0kHz
Output level 66dB



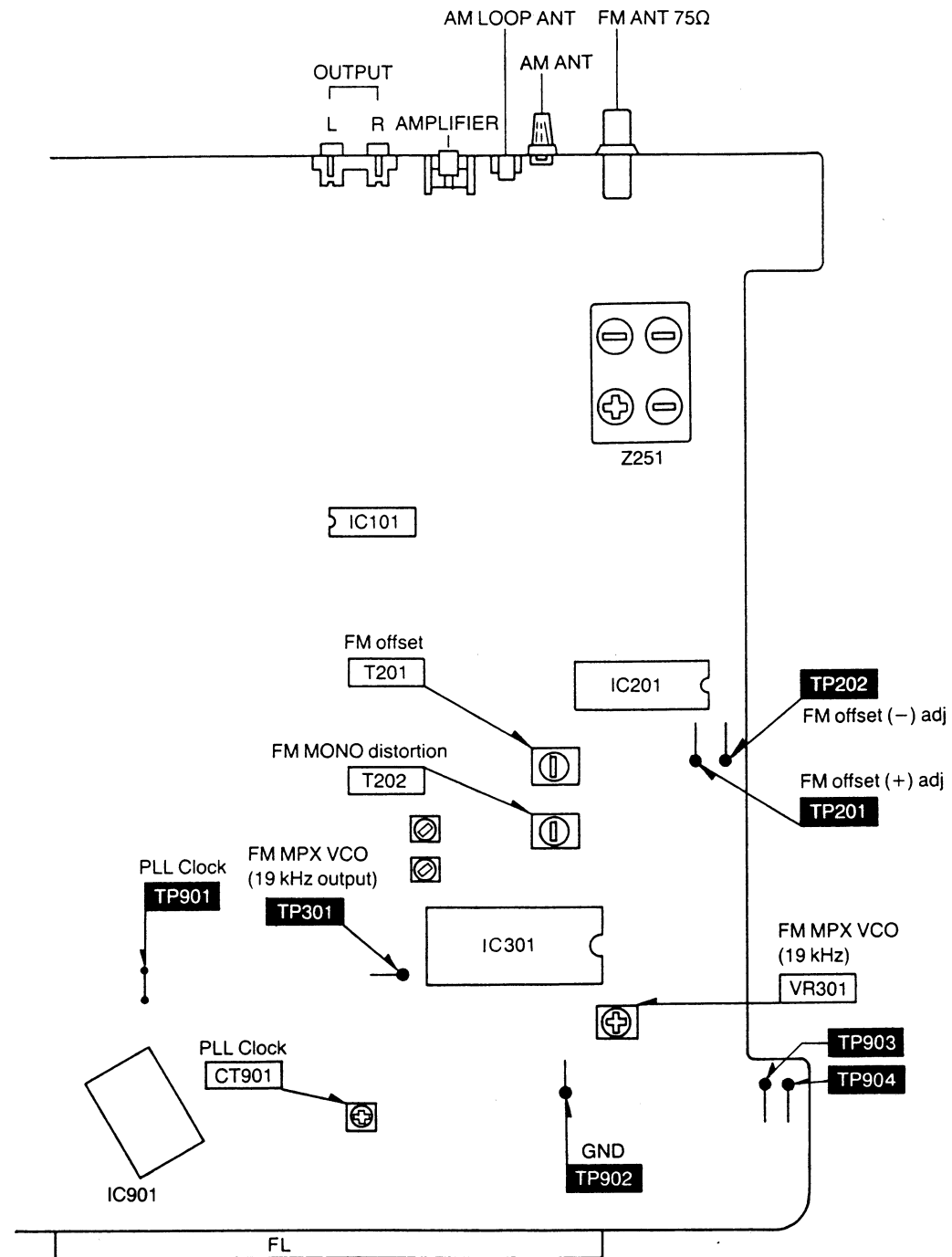
- A-B, D-E..... "Stereo" OFF position
- B-D..... "Stereo" ON position (Indicator lighting)
- C..... Adjust point of pilot circuit

PLL CLOCK FREQUENCY ADJUSTMENT

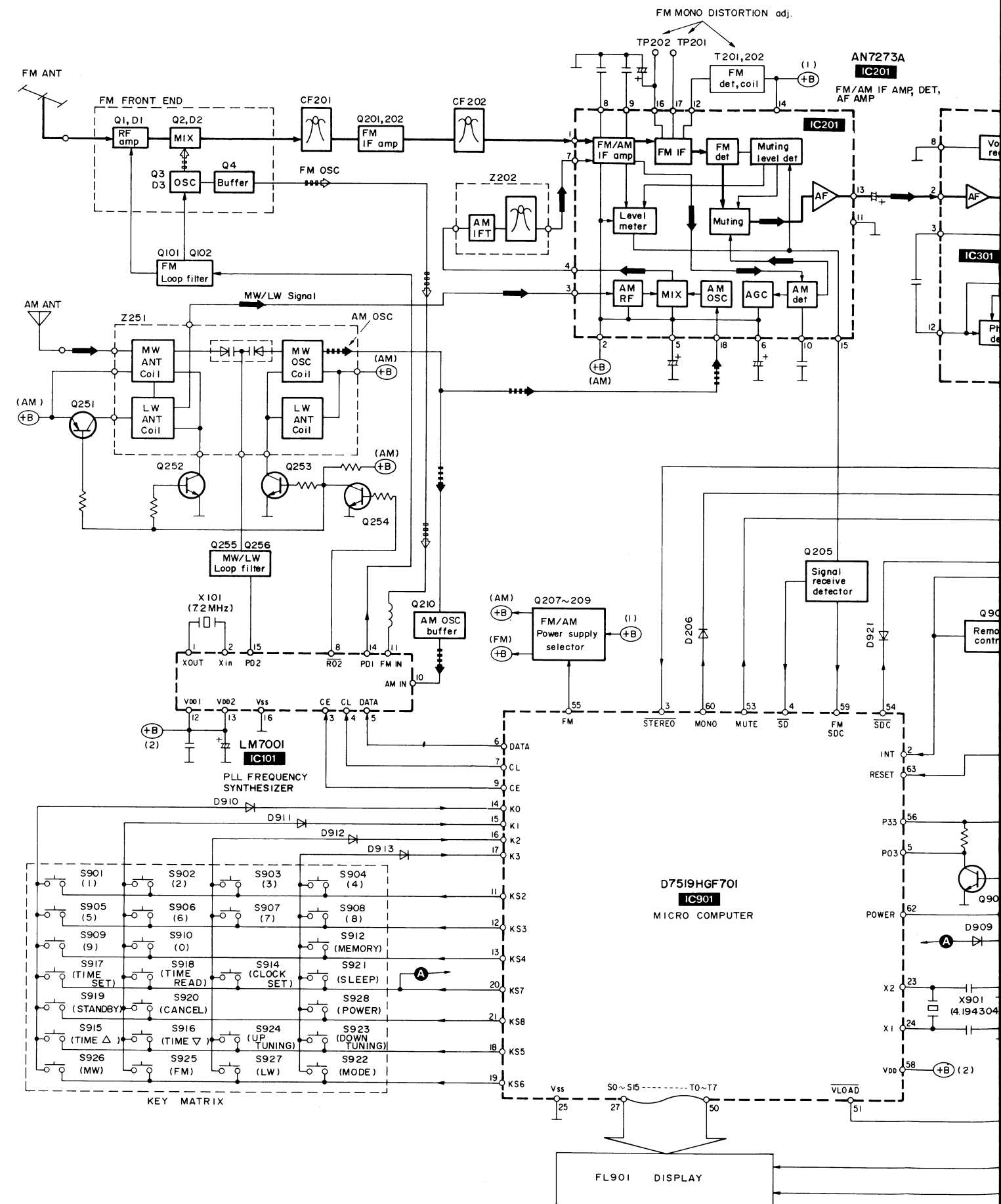
1. Test equipment connection is shown in figure.
2. Set the unit to "AM" position.
3. Short **TP903** and **TP904**.
4. Set the radio frequency display 1629 kHz.
5. Adjust **CT901** for 524.288kHz±10Hz on frequency counter reading.



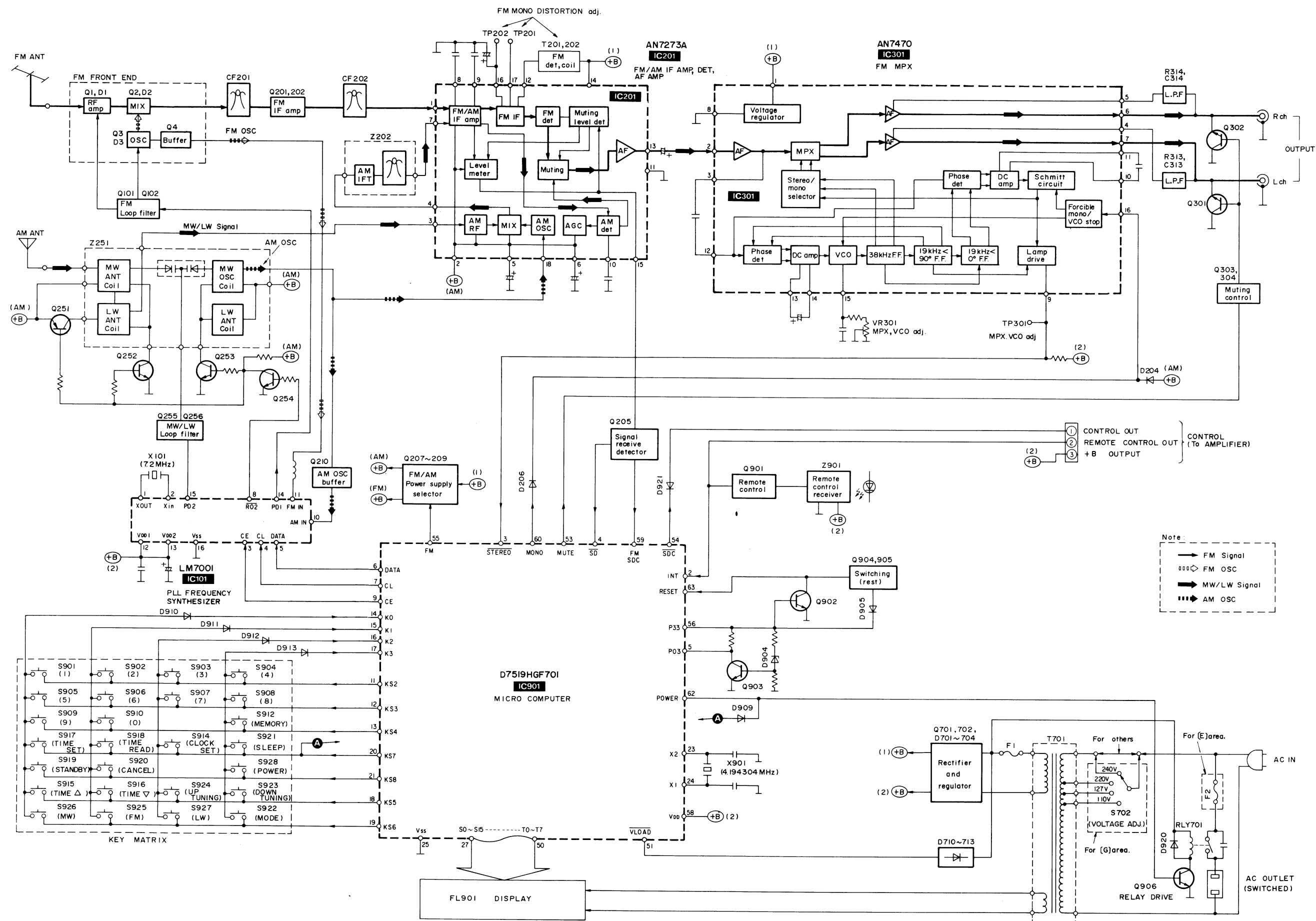
ADJUSTMENT POINTS



BLOCK DIAGRAM

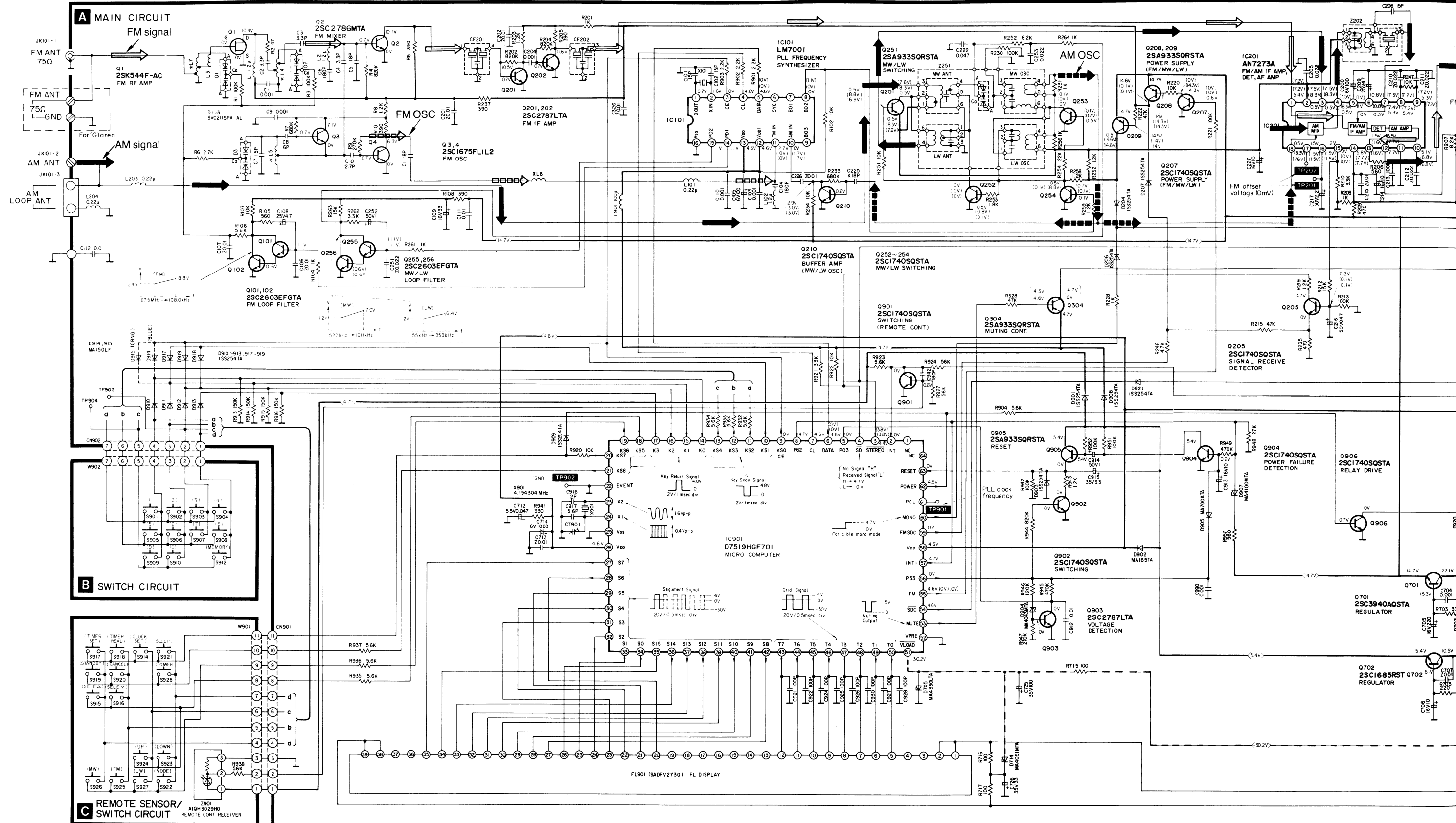


BLOCK DIAGRAM



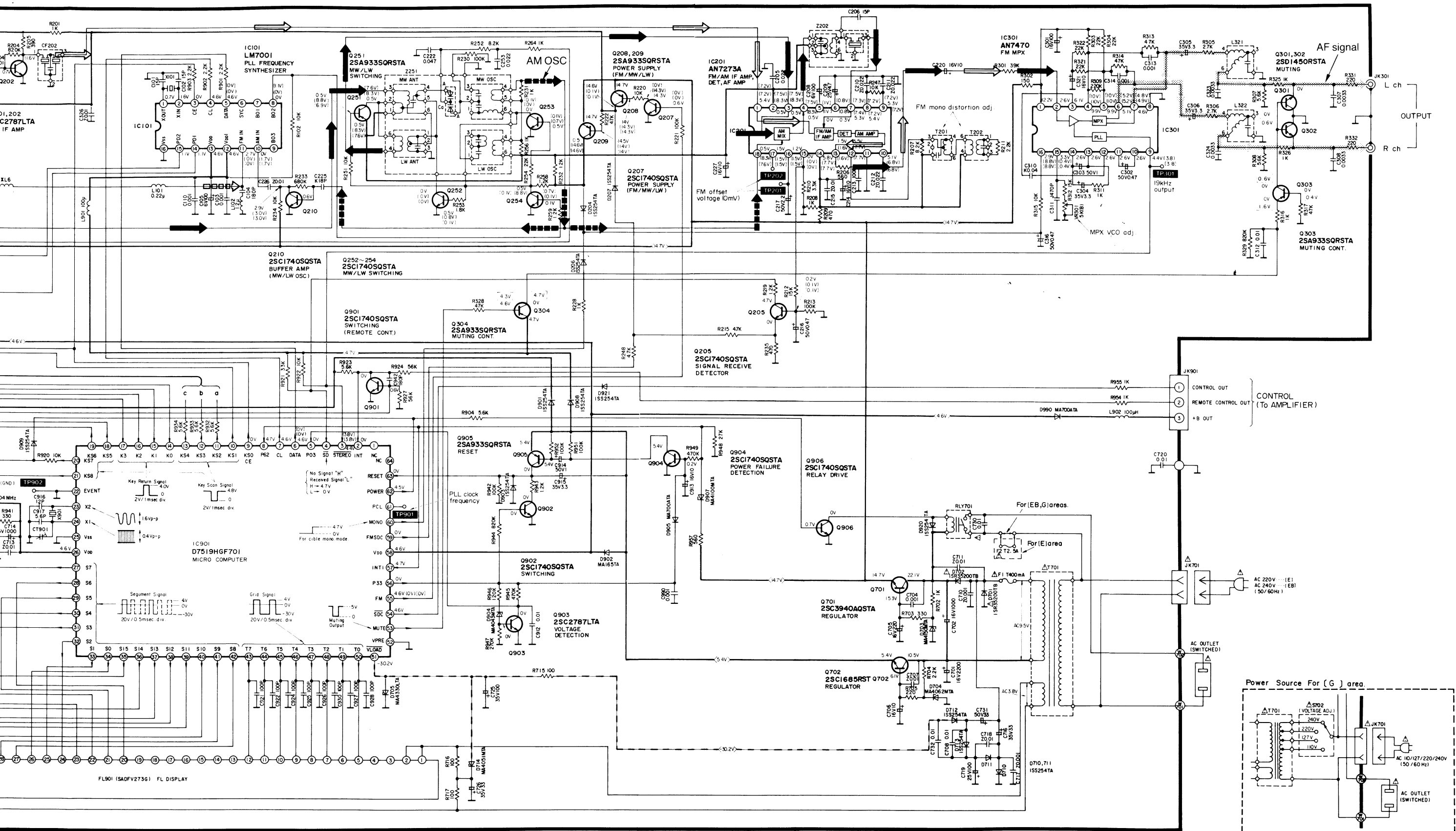
A

A MAIN CIRCUIT

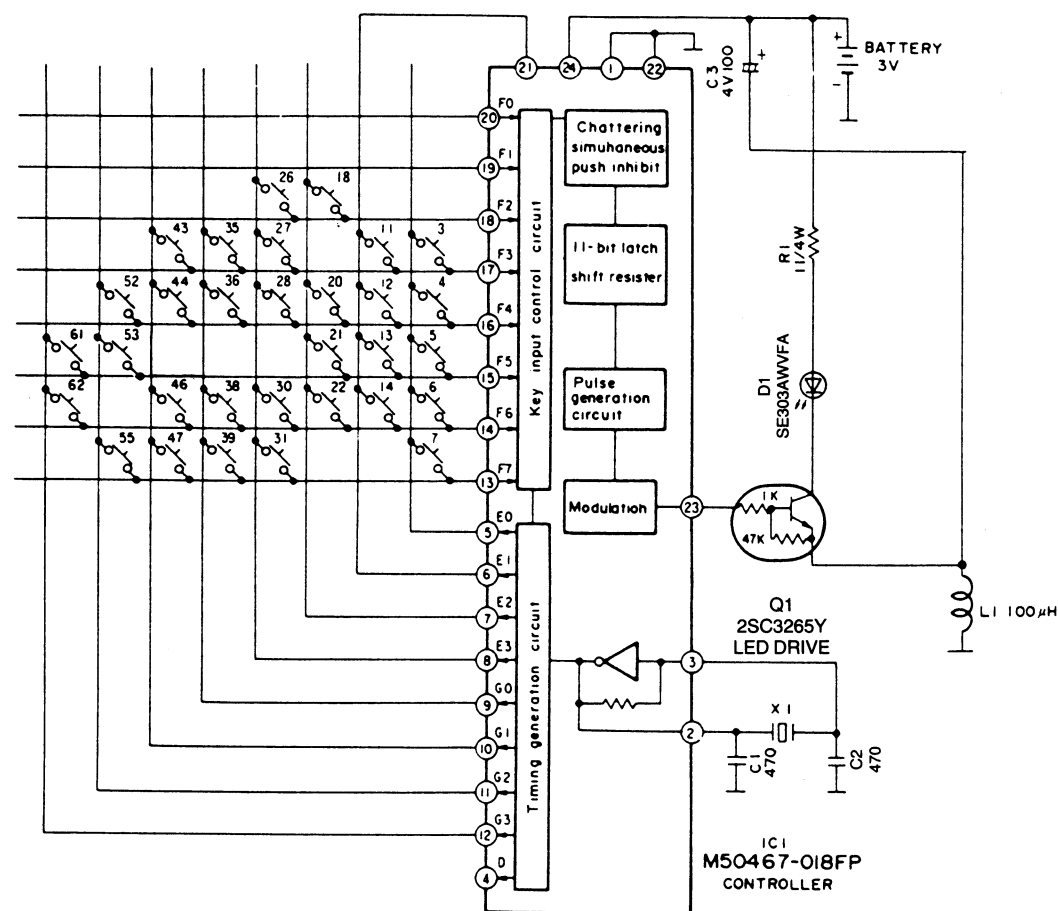


B SWITCH CIRCUIT

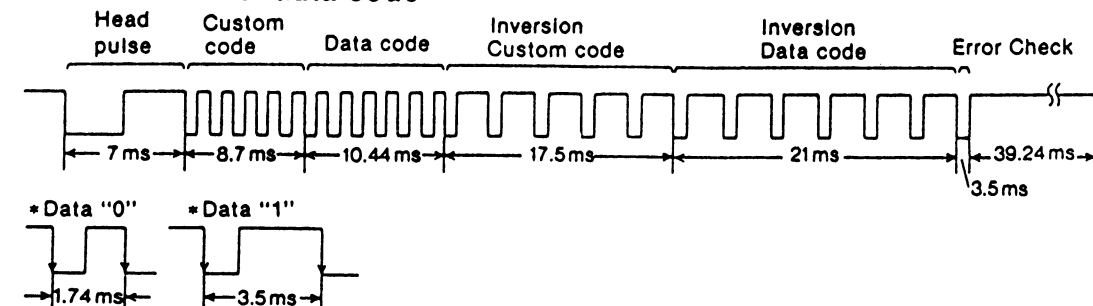
C REMOTE SENSOR, SWITCH CIRCUIT



• Remote control unit



• Remote control data code



Key No.	Function	Custom code	Data code	Key No.	Function	Custom code	Data code
3	Auto rec mute	01001	000111	30	Tuner 8	01001	010111
4	Deck play ◀	01001	001001	31	Tuner 1	01001	010000
5	Vol. up	01001	100100	35	CD • skip/search	01100	000010
6	Tuner 5	01001	010100	36	Pause	01001	000110
7	Power ON/OFF	01001	100000	38	Tuner 9	01001	011000
11	CD play/pause	01100	001010	39	Tuner 2	01001	010001
12	Deck play ▶	01001	001010	43	CD • skip/search	01100	000011
13	Vol. Down	01001	100101	44	Deck stop	01001	000000
14	Tuner 6	01001	010101	46	Tuner 0	01001	011001
18	Turntable start	01001	001100	47	Tuner 3	01001	010010
20	Deck ◀◀	01001	000010	52	Rec	01001	001000
21	Muting	01001	100111	53	Deck A/B	01001	000100
22	Tuner 7	01001	010110	55	Tuner 4	01001	010011
26	Turntable stop	01001	001101	61	EQ • OF/FLAT	01001	110000
27	CD stop	01100	000000	62	EQ Preset	01001	110010
28	Deck ▶▶	01001	000011				

■ SCHEMATIC DIAGRAM (Parts list on page 19~21)

(This schematic diagram may be modified at any time with the development of new technology.)

Note 1:

- S702 : Voltage selector switch in "240 V" position.
(110 V → 127 V → 220 V → 240 V)
For (G) area only.
- S901~S910 : Preset tuning switches.
{ S901: CH1, S902: CH2, S903: CH3, S904: CH4,
S905: CH5, S906: CH6, S907: CH7, S908: CH8,
S909: CH9, S910: CH0 }
- S912 : Memory switch.
- S914 : Clock set switch.
- S915~S921 : Timer operation switches.
{ S915: SELECT (▲), S916: SELECT (▼)
S917: SET, S918: READ, S919: STANDBY
S920: CANCEL, S921: SLEEP }
- S922 : FM mode selector switch.
- S923, S924 : Tuning switches.
S923: DOWN, S924: UP
- S925~S927 : Band selector switches.
S925: FM, S926: MW, S927: LW
- S928 : Power switch.

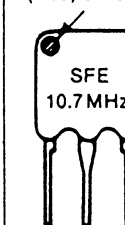
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester. () : AM voltage
- Positive voltage lines
- FM OSC
- AM OSC
- Important safety notice
Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

AF signal lines
FM signal
AM signal

Note 2:

• Use of ceramic filters in pairs
The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.
At repairing and replacement, pay close attention to the diodes (D915, D914) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking
(Red, Black or White)



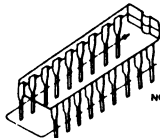
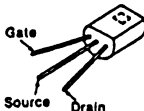
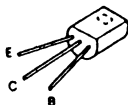
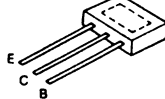
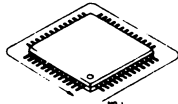
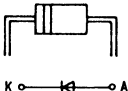
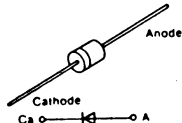
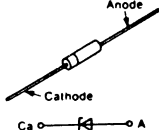
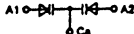
RANK (Color)	D915	D914	CENTER FREQUENCY
Orange	○	×	10.72 MHz
Red	×	×	10.70 MHz
Blue	×	○	10.67 MHz

Note: ○ mark: Diode is used.
× mark: Diode is not used.

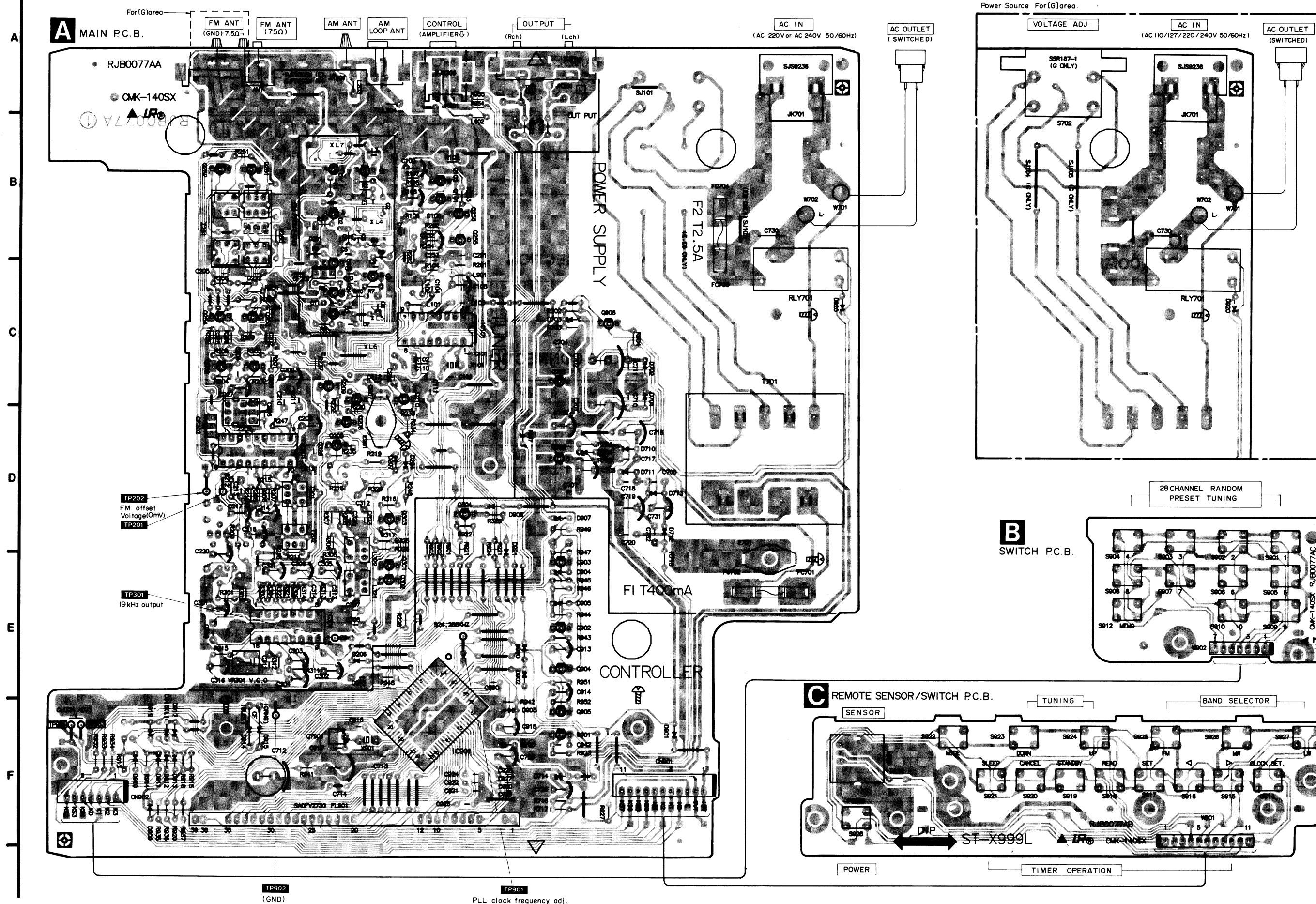
* Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- * Cover the parts boxes made of plastics with aluminum coil.
- * Ground the soldering iron.
- * Put a conductive mat on the work table.
- * Do not touch the legs of IC or LSI with the fingers directly.

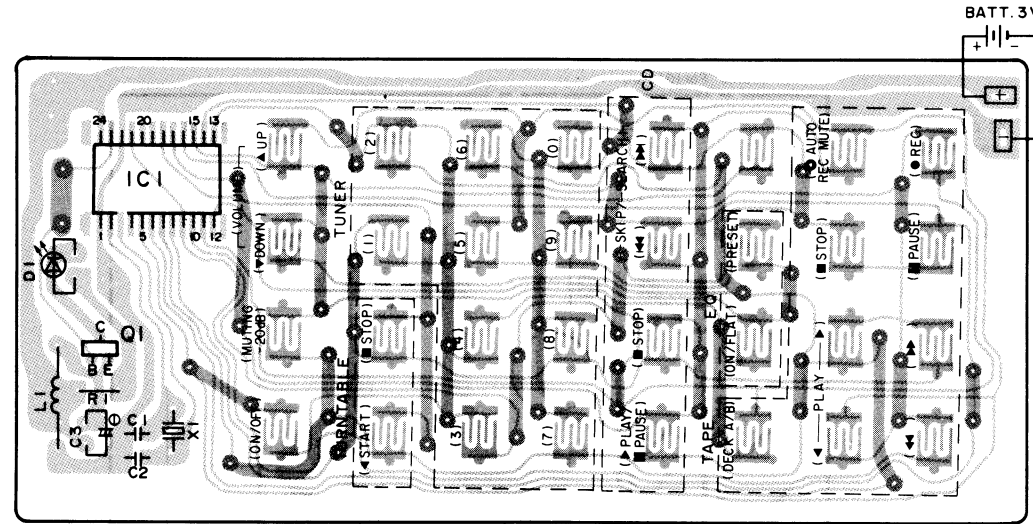
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 NO. 1	<table border="1"><tr><td>SVIUPC</td><td>16 Pin</td></tr><tr><td>1161C3</td><td>16 Pin</td></tr><tr><td>LM7001</td><td>16 Pin</td></tr><tr><td>AN7273B</td><td>18 Pin</td></tr></table>	SVIUPC	16 Pin	1161C3	16 Pin	LM7001	16 Pin	AN7273B	18 Pin	2SK544F-AC 	 2SC3940A-Q 2SC2787L 2SC2786M 2SC1675L 2SC1685RST	 2SC2603EFG 2SC1740SQ 2SA933SQR 2SD1450RS
SVIUPC	16 Pin											
1161C3	16 Pin											
LM7001	16 Pin											
AN7273B	18 Pin											
 NO. 1	D7519HGF701 64 pin	ISR35200 	MA165, MA162A MA700A 	 MA4051M, MA4062M, MA4150M MA4330L MA4043M MA4100M								
SVC211SPA-AL  Anode 1 Cathode Anode 2 												

CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on pages 19~21)



•Remote control unit



■ FUNCTIONS OF IC TERMINALS

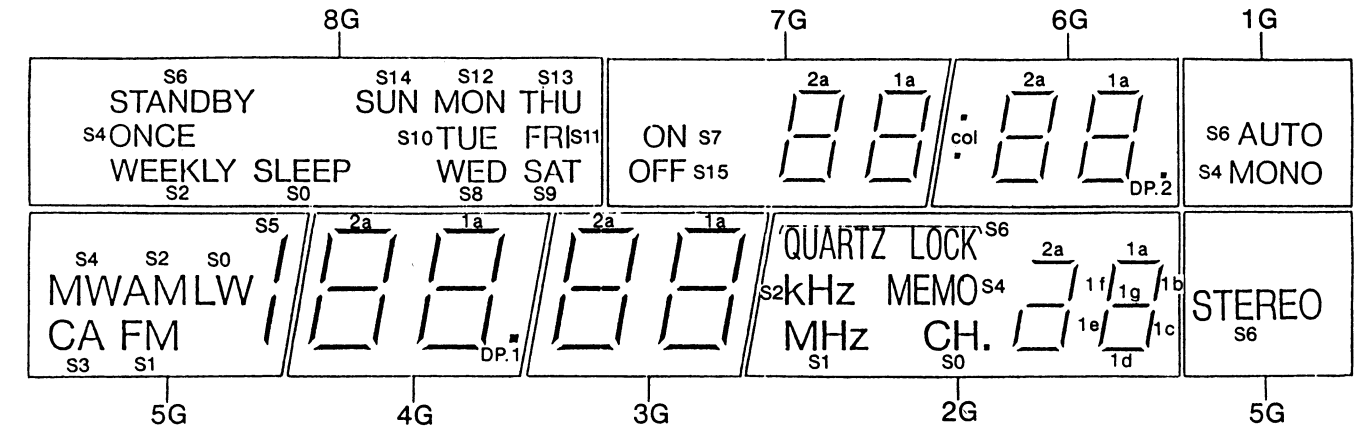
•IC901 (D7519HGF701) MICRO COMPUTER

Pin No.	Terminal Name	Symbol	Function
1	NC	—	—
2	INT0	INT	Remote-control input Leading edge
3	P01	STEREO	Stereo input Active Low
4	P02	SD	Station detector input Active Low
5	P03		Voltage detector input Active High
6	P60	SO	Serial data output
7	P61	SCK	Serial clock output
8	P62		Power failure detection Active Low
9	P63	KS0, CE	Key source output and CE for serial transfer
10	P50	KS1	Key source output
13	P53	KS4	Key source output
14	P10	K0	Key return signal input
17	P13	K3	Key return signal input
18	P40	KS5	Key source output
21	P43	KS8	Key source output
22	EVENT	NC	Non-Connection Connected to non-connection Vss
23	X2	X2	Crystal oscillator 4.19 MHz
24	X1	X1	Crystal oscillator 4.19 MHz
25	Vss	GND	GND terminal
26	Voo	Voo	Power terminal 5 V ± 10%
27	S7	S7	Segment output for FIP
34	S0	S0	High withstand voltage output terminal
35	S15	S15	Segment output for FIP
42	S8	S8	High withstand voltage output terminal

Pin No.	Terminal Name	Symbol	Function
43	T7	T7	Digit output for FIP
50	T0	T0	High withstand voltage output terminal
51	VLOAD	VLOAD	Pull-down resistance common terminal for FIP -30 V
52	VPRE	VPRE	Power supply for pre-driver
53	P30	MUTE	Muting output Active Low
54	P31	SDC	DTS selective output Active Low
55	P32	FM	FM selective output High...FM Low...AM
56	P33		HALT mode output Active High
57	INT1	INT1	HALT mode (backup) reset Connected in parallel to P62 power failure detector terminal
58	Voo	Voo	Power terminal (same as pin 26)
59	P20	FMSDC	FM simultaneous SD circuit control output (only auto tuning and auto scan memory) Active High
60	P21	MONO	FM forced monaural output High...Forced MONO Low...AUTO
61	P22	PCL	Measuring terminal for internal system clock to count $\frac{f_x}{16} = f_0$
62	P23	POWER	Power output High...ON Low...OFF
63	RESET	RESET	Reset terminal
64	PPO	TIMER POWER	High with timer power ON→HIGH Low with timer power OFF→LOW Active High

■ DESCRIPTION OF FL PANEL

•GRID ASSIGNMENT



RESISTORS AND CAPACITORS

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1K Ω)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470 Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001 μ F)	Tolerance	Unique
ECEA	50	M		330
Type	Voltage (50V)	Characteristics		Value (33 μ F)

● Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F).

● Resistance values are in ohms (Ω), unless specified otherwise, 1K=1,000 Ω , 1M=1,000k Ω .

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W 12 : 1/2W	J : $\pm 5\%$
ERG : Metal Oxide	14 : 1/4W 25 : 1/4W	F : $\pm 1\%$
ERQ : Fuse Type Metal	1A : 1W 18 : 1/8W	G : $\pm 2\%$
ERX : Metal Film	S2 : 1/4W S1 : 1/2W	J : $\pm 5\%$
ERD L : Carbon (chip)	2F : 1/4W 50 : 1/2W	K : $\pm 10\%$
ERO K : Metal Film (chip)	2A : 2W 3A : 3W	M : $\pm 20\%$
ERC : Solid	6G : 1/10W 8G : 1/8W	
ERF : Incombustible Box-Shaped		
ERM : Wire-Wound		
RRJ : Chip Resistor		
ERJ : Chip Resistor		

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V 1A : 10V	K : $\pm 10\%$
ECCD : Ceramic	1C : 16V 1E : 25V	M : $\pm 20\%$
ECKD : Ceramic Capacitor	1H : 50V 1V : 35V	Z : +80 %
ECQM : Polyester	50 : 50V 05 : 50V	-20 %
ECQP : Polypropylene	2H : 500V 2A : 100V	J : $\pm 5\%$
ECG : Ceramic	1 : 100V 1J : 63V	G : $\pm 2\%$
ECEA N : Non Polar Electrolytic	KC : 400V AC	F : $\pm 1\%$
QCU : Ceramic (Chip Type)	KC : 125V AC	C : $\pm 0.25pF$
ECUX : Ceramic (Chip Type)	(UL)	D : $\pm 0.5pF$
ECF : Semiconductor		
EECW : Liquid electrolyte double layer capacitor		

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
RESISTORS(VALUE, WATTAGE)								
R1	ERDS2T J104	100K 1/4	R235	ERDS2T J471	470 1/4	R705	ERDS2T J221	220 1/4
R2	ERDS2T J470	47 1/4	R237	ERDS2T J391	390 1/4	R715	ERDS2T J101	100 1/4
R3	ERDS2T J104	100K 1/4	R247	ERDS2T J103	10K 1/4	R716	ERDS2T J101	100 1/4
R4	ERDS2T J824	820K 1/4	R248	ERDS2T J472	4.7K 1/4	R717	ERDS2T J101	100 1/4
R5	ERDS2T J391	390 1/4	R251	ERDS2T J103	10K 1/4	R901	ERDS2T J222	2.2K 1/4
R6	ERDS2T J272	2.7K 1/4	R252	ERDS2T J822	8.2K 1/4	R902	ERDS2T J222	2.2K 1/4
R7	ERDS2T J684	680K 1/4	R253	ERDS2T J182	1.8K 1/4	R903	ERDS2T J222	2.2K 1/4
R8	ERDS2T J122	1.2K 1/4	R254	ERDS2T J223	22K 1/4	R904	ERDS2T J562	5.6K 1/4
R9	ERDS2T J274	270K 1/4	R256	ERDS2T J102	1K 1/4	R913	ERDS2T J154	150K 1/4
R10	ERDS2T J391	390 1/4	R258	ERDS2T J122	1.2K 1/4	R914	ERDS2T J154	150K 1/4
R102	ERDS2T J103	10K 1/4	R259	ERDS2T J122	1.2K 1/4	R915	ERDS2T J154	150K 1/4
R104	ERDS2T J102	1K 1/4	R261	ERDS2T J102	1K 1/4	R916	ERDS2T J154	150K 1/4
R105	ERDS2T J561	560 1/4	R262	ERDS2T J332	3.3K 1/4	R920	ERDS2T J103	10K 1/4
R106	ERDS2T J562	5.6K 1/4	R263	ERDS2T J153	15K 1/4	R921	ERDS2T J333	33K 1/4
R107	ERDS2T J103	10K 1/4	R264	ERDS2T J102	1K 1/4	R922	ERDS2T J103	10K 1/4
R108	ERDS2T J391	390 1/4	R301	ERDS2T J393	39K 1/4	R923	ERDS2T J562	5.6K 1/4
R201	ERDS2T J102	1K 1/4	R302	ERDS2T J151	150 1/4	R924	ERDS2T J563	56K 1/4
R202	ERDS2T J824	820K 1/4	R303	ERDS2T J223	22K 1/4	R927	ERDS2T J563	56K 1/4
R203	ERDS2T J122	1.2K 1/4	R304	ERDS2T J223	22K 1/4	R932	ERDS2T J562	5.6K 1/4
R204	ERDS2T J824	820K 1/4	R305	ERDS2T J272	2.7K 1/4	R933	ERDS2T J562	5.6K 1/4
R205	ERDS2T J391	390 1/4	R306	ERDS2T J272	2.7K 1/4	R934	ERDS2T J562	5.6K 1/4
R206	ERDS2T J561	560 1/4	R307	ERDS2T J562	5.6K 1/4	R935	ERDS2T J562	5.6K 1/4
R207	ERDS2T J822	8.2K 1/4	R308	ERDS2T J562	5.6K 1/4	R936	ERDS2T J562	5.6K 1/4
R208	ERDS2T J102	1K 1/4	R309	ERDS2T J224	220K 1/4	R937	ERDS2T J562	5.6K 1/4
R209	ERDS2T J471	470 1/4	R311	ERDS2T J102	1K 1/4	R938	ERDS2T J563	56K 1/4
R210	ERDS2T J332	3.3K 1/4	R312	ERDS2T J153	15K 1/4	R941	ERDS2T J331	330 1/4
R211	ERDS2T J222	2.2K 1/4	R313	ERDS2T J473	47K 1/4	R942	ERDS2T J104	100K 1/4
R212	ERDS2T J153	15K 1/4	R314	ERDS2T J473	47K 1/4	R943	ERDS2T J122	1.2K 1/4
R213	ERDS2T J104	100K 1/4	R315	ERDS2T J103	10K 1/4	R944	ERDS2T J824	820K 1/4
R215	ERDS2T J472	4.7K 1/4	R316	ERDS2T J102	1K 1/4	R945	ERDS2T J474	470K 1/4
R219	ERDS2T J122	1.2K 1/4	R317	ERDS2T J473	47K 1/4	R946	ERDS2T J124	120K 1/4
R220	ERDS2T J103	10K 1/4	R321	ERDS2T J273	27K 1/4	R947	ERDS2T J274	270K 1/4
R221	ERDS2T J104	100K 1/4	R322	ERDS2T J223	22K 1/4	R948	ERDS2T J273	27K 1/4
R222	ERDS2T J473	47K 1/4	R325	ERDS2T J102	1K 1/4	R949	ERDS2T J474	470K 1/4
R228	ERDS2T J102	1K 1/4	R326	ERDS2T J102	1K 1/4	R951	ERDS2T J104	100K 1/4
R230	ERDS2T J104	100K 1/4	R328	ERDS2T J473	47K 1/4	R952	ERDS2T J104	100K 1/4
R231	ERDS2T J102	1K 1/4	R329	ERDS2T J824	820K 1/4	R954	ERDS2T J102	1K 1/4
R232	ERDS2T J122	1.2K 1/4	R331	ERDS2T J221	220 1/4	R955	ERDS2T J102	1K 1/4
R233	ERDS2T J684	680K 1/4	R332	ERDS2T J221	220 1/4	R957	ERDS2T J561	560 1/4
R234	ERDS2T J103	10K 1/4	R702	ERDS2T J102	1K 1/4	CAPACITORS(VALUE, VOLTAGE)		
			R703	ERDS2T J331	330 1/4	C1	ECBT1H102KB5	0.001 50
			R704	ERDS2T J222	2.2K 1/4			

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
C2	RCBS1H3R3KCY	3.3P 50	C214	ECEA1CKS100	10 16	C705	ECEA1CU221	220 16
C3	RCBS1H3R3KCY	3.3P 50	C215	ECBT1E103ZF	0.01 25	C706	ECEA1CKS100	10 16
C4	RCBS1H3R3KCY	3.3P 50	C216	ECEA1HKR47	0.47 50	C707	ECKF1H103ZF	0.01 50
C5	RCBS1H180JCY	18P 50	C217	ECEA1HK2R2B	2.2 50	C708	ECKF1H103ZF	0.01 50
C6	RCBS1H181KBY	180P 50	C220	ECEA1CKS100	10 16	C710	ECKD2H102ZF	0.001 500
C7	RCBS1H1R5MXY	1.5P 50	C222	ECFTD473KXL	0.047 25	C711	ECKF1H103ZF	0.01 50
C8	ECCD1H060CC	6P 50	C225	RCBS1H180JCY	18P 50	C712	EECF5R5U473	0.047F 5.5
C9	ECBT1H102KB5	0.001 50	C226	ECKF1H103ZF	0.01 50	C713	ECKF1H103ZF	0.01 50
C10	RCBC1H2R7KCY	2.7P 50	C227	ECEA1CKS100	10 16	C714	ECEA0JS102	1000 6.3
C11	RCBS1H180JCY	18P 50	C251	ECKD1H223PF	0.022 50	C716	ECEA1VU330	33 35
C101	RCBS1H150JCY	15P 50	C252	ECEA1HK010	1 50	C717	ECKD2H102ZF	0.001 500
C102	RCBS1H150JCY	15P 50	C253	ECKD1H223PF	0.022 50	C718	ECKF1H103ZF	0.01 50
C103	ECBT1H102KB5	0.001 50	C301	ECEA1CU101	100 16	C719	ECEA1EU101	100 25
C104	RCBS1H181KBY	180P 50	C302	ECEA1HKR47	0.47 50	C720	ECKF1H103ZF	0.01 50
C105	ECEA0JU101	100 6.3	C303	ECEA1HK010	1 50	C725	ECEA1VU330	100 35
C106	ECKF1H103ZF	0.01 50	C304	ECEA1VK3R3	3.3 35	C726	ECEA1VU330	33 35
C107	ECKF1H103ZF	0.01 50	C305	ECEA1VK3R3	3.3 35	C730	ECKWNS103ZVS	0.01 250
C108	ECEA25M4R7R	4.7 25	C306	ECEA1VK3R3	3.3 35	C731	ECEA1HS330	33 50
C109	ECEA1CU330	33 16	C307	ECFTD332KXL	0.0033 25	C732	ECKF1H103ZF	0.01 50
C110	ECBT1H102KB5	0.001 50	C308	ECFTD332KXL	0.0033 25	C912	ECKF1H103ZF	0.01 50
C111	ECKF1H103ZF	0.01 50	C310	ECFTD473KXL	0.047 25	C913	ECEA1CKS100	10 16
C112	ECKF1H103ZF	0.01 50	C311	ECQP1471JZ	470P 125	C914	ECEA1HK010	1 50
C201	ECKF1H103ZF	0.01 50	C312	ECKF1H103ZF	0.01 50	C915	ECEA1VK3R3	3.3 35
C202	ECKF1H103ZF	0.01 50	C313	ECBT1H102KB5	0.001 50	C916	RCBC1H120KCY	12P 50
C204	ECBT1H102KB5	0.001 50	C314	ECBT1H102KB5	0.001 50	C917	RCBS1H5R6KCY	5.6P 50
C205	ECBT1E223ZF	0.022 25	C316	ECEA1HKR47	0.47 50	C921	RCBC1H101KBY	100P 50
C206	RCBS1H150JCY	15P 50	C321	ECEA1CKS100	10 16	C922	RCBC1H101KBY	100P 50
C208	ECEA0JU101	100 6.3	C323	ECFTD332KXL	0.0033 25	C924	RCBC1H101KBY	100P 50
C209	ECEA1EK4R7	4.7 25	C324	ECFTD332KXL	0.0033 25	C925	RCBC1H101KBY	100P 50
C210	ECKD1H223PF	0.022 50	C326	ECKF1H103ZF	0.01 50	C926	RCBC1H101KBY	100P 50
C211	ECKD1H223PF	0.022 50	C701	ECEA1CU222	2200 16	C927	RCBC1H101KBY	100P 50
C212	ECBT1E223ZF	0.022 25	C702	ECEA16V1000	1000 16	C928	RCBC1H101KBY	100P 50
C213	RCBC1H101KBY	100P 50	C704	ECBT1H102KB5	0.001 50	C930	RCBC1H101KBY	100P 50
						C942	RCBS1H181KBY	180P 50
						C990	ECBT1H102KB5	0.001 50

REPLACEMENT PARTS LIST

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

* Remote Control Assy:

Supply period for three years from termination of production.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			Q702	2SC1685RST	TRANSISTOR
IC101	LM7001	I.C. PLL FREQUENCY	Q901	2SC1740SQ	TRANSISTOR
IC201	AN7273B	I.C. FM/AM IF AMP	Q902	2SC1740SQ	TRANSISTOR
IC301	SV1UPC1161C3	I.C. FM MPX	Q903	2SC2787L	TRANSISTOR
IC901	D7519HGF701	I.C. MICRO COMPUTER	Q904	2SC1740SQ	TRANSISTOR
TRANSISTORS			Q905	2SA933SQR	TRANSISTOR
Q1	2SK544F-AC	TRANSISTOR	Q906	2SC1740SQ	TRANSISTOR
Q2	2SC2786M	TRANSISTOR	DIODES		
Q3	2SC1675L1L2	TRANSISTOR	D1	SVC211SPA-AL	VARI CAP
Q4	2SC1675L1L2	TRANSISTOR	D2	SVC211SPA-AL	VARI CAP
Q101	2SC2603EFG	TRANSISTOR	D3	SVC211SPA-AL	VARI CAP
Q102	2SC2603EFG	TRANSISTOR	D204	MA165	DIODE
Q201	2SC2787L	TRANSISTOR	D206	MA165	DIODE
Q202	2SC2787L	TRANSISTOR	D207	MA165	DIODE
Q205	2SC1740SQ	TRANSISTOR	D701	△ SVD1SR35200A	DIODE
Q207	2SC1740SQ	TRANSISTOR	D702	△ SVD1SR35200A	DIODE
Q208	2SA933SQR	TRANSISTOR	D703	MA4150M	DIODE
Q209	2SA933SQR	TRANSISTOR	D704	MA4062M	DIODE
Q210	2SC1740SQ	TRANSISTOR	D705	MA4330L	DIODE
Q251	2SA933SQR	TRANSISTOR	D710	MA165	DIODE
Q252	2SC1740SQ	TRANSISTOR	D711	MA165	DIODE
Q253	2SC1740SQ	TRANSISTOR	D712	MA165	DIODE
Q254	2SC1740SQ	TRANSISTOR	D713	MA165	DIODE
Q255	2SC2603EFG	TRANSISTOR	D714	MA4051-M	DIODE
Q256	2SC2603EFG	TRANSISTOR	D901	MA165	DIODE
Q301	2SD1450RSTA	TRANSISTOR	D902	MA165	DIODE
Q302	2SD1450RSTA	TRANSISTOR	D903	MA165	DIODE
Q303	2SA933SQR	TRANSISTOR	D904	MA4043M	DIODE
Q304	2SA933SQR	TRANSISTOR	D905	MA700	DIODE
Q701	2SC3940AQSTA	TRANSISTOR	D907	MA4100M	DIODE
			D908	MA165	DIODE

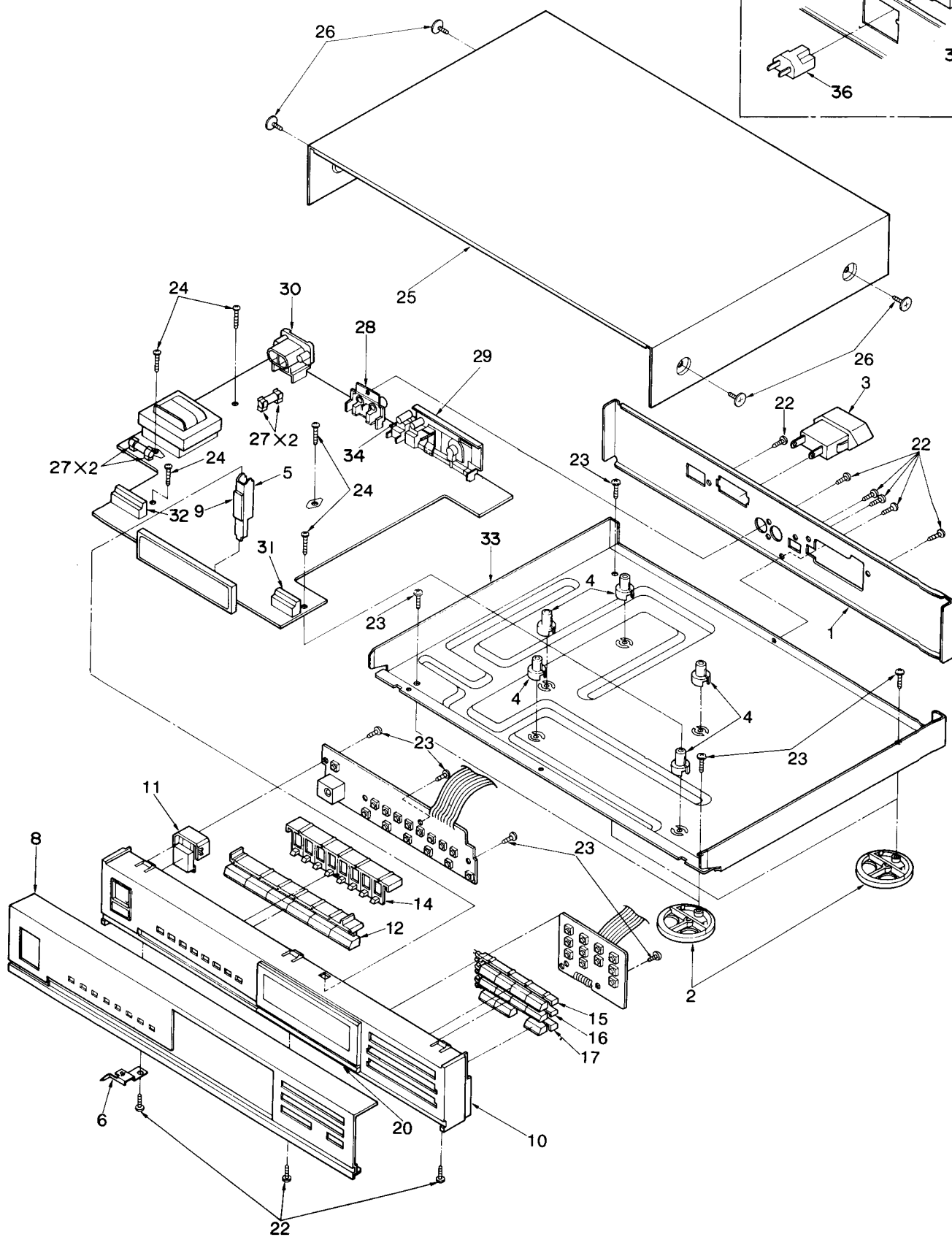
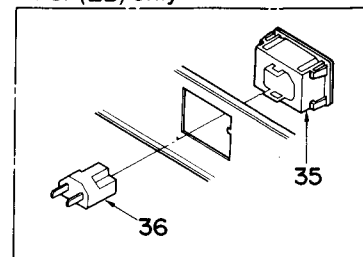
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D909	MA165	DIODE	CF201	RLFETNGM02LC	CERAMIC FILTER(ORANGE)
D910	MA165	DIODE	CF202	RLFETNGM02LB	CERAMIC FILTER(BLUE)
D911	MA165	DIODE	CF202	RLFETNGM02LC	CERAMIC FILTER(ORANGE)
D912	MA165	DIODE	DISPLAYS		
D913	MA165	DIODE	FL901	SADFY273G	DISPLAY TUBE
D914	MA162A	DIODE	FUSES		
D915	MA162A	DIODE	F1	△ XBA2C04TB0	FUSE, T0.4A 250V
D917	MA165	DIODE	F2	△ XBA2C25TB0	FUSE, T2.5A 250V
D918	MA165	DIODE	[E]		
D919	MA165	DIODE	SWITCHES		
D920	MA165	DIODE	S702	△ SSR187-1	SW, VOLTAGE SELECTOR
D921	MA165	DIODE	[G]		
D990	MA700	DIODE	S901	EVQQB005R	SW, 1
VARIABLE RESISTORS			S902	EVQQB005R	SW, 2
VR301	EVNDXAA00B53	V.R., MPX VCO ADJ.	S903	EVQQB005R	SW, 3
VARIABLE CAPACITORS			S904	EVQQB005R	SW, 4
CT901	ECRLA010A52	TRIMMER CAPACITOR	S905	EVQQB005R	SW, 5
COILS AND TRANSFORMERS			S906	EVQQB005R	SW, 6
L1	RLQZP1R2KT-Y	CHOKE COIL	S907	EVQQB005R	SW, 7
L2	RLQZP1R2KT-Y	CHOKE COIL	S908	EVQQB005R	SW, 8
L3	RLQY15S5-0	ANTENNA COIL	S909	EVQQB005R	SW, 9
L101	RLQZPR22KT-Y	COIL	S910	EVQQB005R	SW, 0
L102	RLQZP1R2KT-Y	CHOKE COIL	S912	EVQQB005R	SW, MEMORY
L203	ELEPKR22MA	COIL	S914	EVQQB005R	SW, CLOCK SET
L204	ELEPKR22MA	COIL	S915	EVQQB005R	SW, SELECT
L321	SLM1B9-P	MPX COIL	S916	EVQQB005R	SW, SELECT
L322	SLM1B9-P	MPX COIL	S917	EVQQB005R	SW, SET
L901	RLQZP101KT-Y	COIL	S918	EVQQB005R	SW, READ
L902	RLQZP101KT-Y	COIL	S919	EVQQB005R	SW, STAND-BY
T201	RL14B002-Z	I.F. TRANSFORMER	S920	EVQQB005R	SW, CANCEL
T202	RL14B003-Z	I.F. TRANSFORMER	S921	EVQQB005R	SW, SLEEP
T701	△ SLT5K262-K	POWER TRANSFORMER	S922	EVQQB005R	SW, FM MODE
[E]			S923	EVQQB005R	SW, TUNING DOWN
T701	△ SLT5K263-K	POWER TRANSFORMER	S924	EVQQB005R	SW, TUNING UP
[EB]			S925	EVQQB005R	SW, BAND FM
T701	△ SLT5K264-K	POWER TRANSFORMER	S926	EVQQB005R	SW, BAND MW
[G]			S927	EVQQB005R	SW, BAND LW
COMPONENT COMBINATIONS			S928	EVQQB005R	SW, POWER
Z202	SL17Z101-T	I.F. TRANSFORMER	RELAYS		
Z251	SLA6Z1-T	COIL	RLY701	△ SSY138	RELAY
Z901	A1QH3029H0	COMPONENT COMBINATION	OTHERS		
FILTERS			X101	SVQ49U722-S	CRYSTAL OSCILLATOR
CF201	RLFETNGM02LB	CERAMIC FILTER(BLUE)	X901	SVQ49U422T-S	CRYSTAL OSCILLATOR

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET AND CHASSIS					
1	SGP7360E	REAR PANEL	15	SBC989D	BUTTON, PRESET
(E)			16	SBC989E	BUTTON, PRESET
1	SGP7362B	REAR PANEL	17	SBZ9104	BUTTON, PRESET
(G)			20	SGX7971A	ORNAMENT
1	SGP7363A	REAR PANEL	22	XTBS3+8JFZ1	SCREW
(EB)			23	XTB3+8G	SCREW
2	SKL307	FOOT	24	XTB3+20J	SCREW
3	△ SJS9221	AC OUTLET	25	SKC2061K16	CABINET
(G)			26	SNE2129-1	SCREW
3	△ SJS9225	AC OUTLET	27	△ SGT390	FUSE HOLDER
(E)			28	SJFD4	TERMINAL BOARD, OUTPUT
4	SHE181	HOLDER	29	SJF8305N	TERMINAL BOARD, ANT
5	SUN3102	BRACKET	29	SJF8402N	TERMINAL PLATE
6	SUS874	SPRING	(G)		
8	RYP0066	FRONT PANEL	30	△ SJS9236	AC INLET
9	SHG6390	RUBBER SPACER	31	SJT30740LX-V	CONNECTOR(7P)(CN902)
10	SGXTX990-KG	FRONT GRILLE	32	SJT31143-V	CONNECTOR(11P)(CN901)
11	SBC986	BUTTON, POWER	33	SKU11651-4	BOTTOM BOARD
12	SBC1029A	BUTTON, SELECTOR	34	RJS1A0203-OM	SOCKET(3P)(JK901)
14	SBC988	BUTTON, TIMER	35	SJS9332A	AC OUTLET COVER
			(EB)		
			36	△ SJS9332B	AC OUTLET
			(EB)		

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKING MATERIAL					
P1	RPG0106	PACKING CASE	A2	△ SJA193	POWER CORD
P2	SPS5169	PAD	(EB)		
P3	SPS5170	PAD	A3	SJP2269	CORD
P4	SPS5073	PAD	A4	SPB1162T	AM LOOP ANTENNA
ACCESSORIES			A4-1	SMA233-1M	HOLDER
A1	RQF0091	INSTRUCTION MANUAL	A4-2	SMA231M	BRACKET
(E)			A4-3	XTB3+10AFZ	SCREW
A1	RQF0092	INSTRUCTION MANUAL	A5	SSA269M	FM ANTENNA
(G)			(G)		
A1	RQF0093	INSTRUCTION MANUAL	A5	SSA270M	FM ANTENNA
(EB)			(E, EB)		
A2	△ RJA0004	POWER CORD	A6	SWKTX930E	LEAD WIRE
(G)			A7	△ SJP9009	ATTACHMENT PLUG
A2	△ SFDAC05E03	POWER CORD	(EB)		
(E)			A8	△ RJP120ZBS-H	AC PLUG ADAPTOR
			(G)		
			A101	EUR64754	REMOTE CONTROLLER

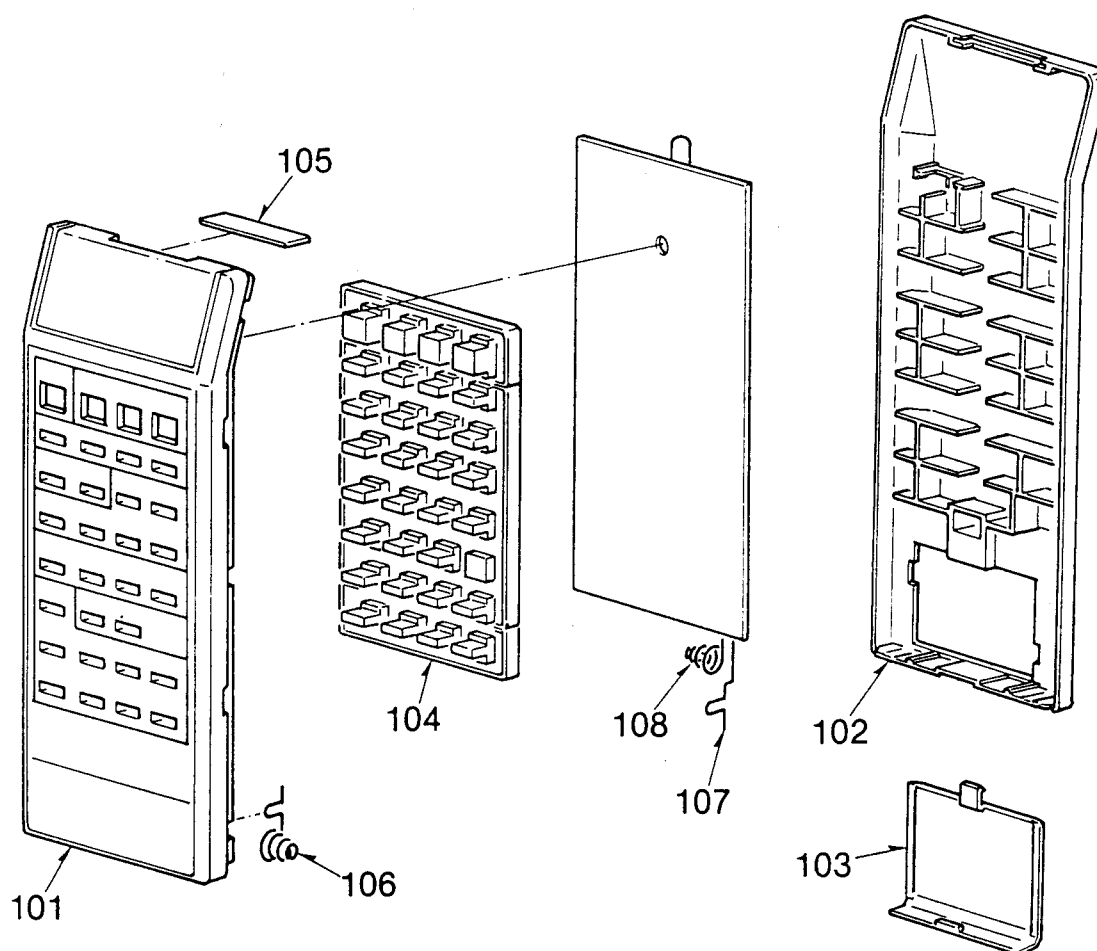
EXPLODED VIEW

● For (EB) only



ST-X999L

●REMOTE CONTROL UNIT



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
REMOTE CONTROLLER			RESISTORS		
INTEGRATED CIRCUITS			R1	ERD25TLJ1R0U	RESISTOR
IC1	M50467018FP	I.C	CAPACITORS		
TRANSISTORS			C1	ECUV1H471KCG	CAPACITOR
Q1	2SC3265Y	TRANSISTOR	C2	ECUV1H471KCG	CAPACITOR
DIODES			C3	ECEA0GK101	ELECTROLYTIC, 100 μ F, 4V
D1	SE303AWVFA	L.E.D	MECHANISM PARTS		
COIL			101	UR64VCS566	UPPER CABINET
L1	ELEA101JA	COIL	102	UR64CS803A	LOWER CABINET
OSCILLATOR			103	UR64EC804	BATTERY COVER
X1	CSB420PB6	OSCILLATOR	104	UR64CT805D	RUBBER SWITCH
			105	UR52SB327	PLATE(SMOKE)
			106	UR64TD374	BATTERY TERMINAL(COMMON)
			107	UR64TD808	TERMINAL (+)
			108	UR64TD809	TERMINAL (-)